Age and Ageing 2019; **48:** 291–299
doi: 10.1093/ageing/afy173
Published electronically 13 November 2018

QUALITATIVE RESEARCH

European postgraduate curriculum in geriatric medicine developed using an international modified Delphi technique

Regina Roller-Wirnsberger[1], Tahir Masud[2], Michael Vassallo[3], Martina Zöbl[1], Raphael Reiter[4], Nele Van Den Noortgate[5], Jean Petermans[6], Ignat Petrov[7], Eva Topinkova[8], Karen Andersen-Ranberg[9], Kai Saks[10], Maria Nuotio[11,12], Sylvie Bonin-Guillaume[13], Dieter Lüttje[14], Elizabeth Mestheneos[15], Bela Szekacs[16], Anna Björg Jonsdottir[17], Desmond O'Neill[18], Antonio Cherubini[19], Jurate Macijauskiene[20], Jean-Claude Leners[21], Anthony Fiorini[22], Marianne van Iersel[23], Anette Hylen Ranhoff[24], Tomasz Kostka[25], Sofia Duque[26], Gabriel Ioan Prada[27], Mladen Davidovic[28], Stefan Krajcik[29], Marko Kolsek[30], Jesus Mateos del Nozal[31], Anne W. Ekdahl[32,33], Thomas Münzer[34], Sumru Savas[35], Paul Knight[36], Adam Gordon[37], Katrin Singler[38,39]

[1]Department of Internal Medicine, Medical University of Graz, Auenbruggerplatz 15, 8036 Graz, Austria
[2]Department of Healthcare for Older People, Nottingham University Hospitals NHS Trust, Derby Road, Nottingham, NG7 2UH, UK
[3]Royal Bournemouth and Christchurch NHS Hospitals Foundation Trust, Castle Lane East, Bournemouth BH7 7DW, UK
[4]Department of Geriatric Medicine, Paracelsus Medical University Strubergasse 22, 5020 Salzburg, Austria
[5]Department of Geriatric Medicine, Ghent University Hospital Corneel Heymanslaan 10, 9000 Gent, Belgium
[6]Geriatric Department, CHU Rue de Gaillarmont 600, 4030 Liège, Belgium
[7]Clinical Centre of Endocrinology and Gerontology, Medical University of SofiaBoulevard "Akademik Ivan Evstratiev Geshov" 15, 1431 Sofia Center, Sofia, Bulgaria
[8]Department of Gerontology and Geriatrics, 1st Faculty of Medicine, Charles University and General Faculty HospitalOvocný trh 3-5, 116 36 Staré Město, Czechia
[9]Department of Geriatric Medicine, Odense University Hospital and Department of Clinical Research, University of Southern Denmark, J. B. Winsløws Vej 4, 5000 Odense, Denmark
[10]Department of Internal Medicine, University of Tartu, Ülikooli 18, 50090 Tartu, Estonia
[11]Department of Geriatric Medicine, Seinäjoki Central Hospital, Hanneksenrinne 7, 60220 Seinäjoki, Finland
[12]Department of Geriatrics, University of Turku, 20500 Turku, Finland
[13]Department of Geriatric Medicine, Hopital de la Timone, 264 Rue Saint Pierre, 13005 Marseille 05, Provence-Alpes-Côte d'Azur, France
[14]Medizinische Klinik IV, Geriatrie und Palliativmedizin, Klinikum Osnabrück, Germany
[15]Hellenic Association of Gerontology and Geriatrics, Past President Age Platform Europe, Greece
[16]Hungarian Association of Gerontology and Geriatrics (HAGG)
[17]Department of Geriatric Medicine, The National University Hospital of Iceland Landakoti, 101, Reykjavík Iceland
[18]Department of Clinical Gerontology, College Green, Dublin 2, Ireland
[19]Geriatria, Accettazione geriatrica e Centro di ricerca per l'invecchiamento, IRCCS INRCA, Ancona, Italia
[20]Department of Geriatrics, The Faculty of Nursing, Medical Academy Lithuanian, University of Health Sciences, A. Mickevičiaus g. 9, Kaunas 44307, Lithuania
[21]House Omega & LTCF Alzheimer, University of Luxembourg, 2, avenue de l'Université, 4365 Esch-sur-Alzette, Luxembourg
[22]The Geriatric Medicine Society of Malta, Karin Grech Hospital, Telghat Gwardamangia, Pieta' Malta PTA 1312, Malta
[23]Department of Geriatric Medicine, Radboud University Medical Centre, Geert Grooteplein Zuid 10, 6525 GA Nijmegen, Netherlands

[24]Department of Clinical Science, University of Bergen, 5007 Bergen, Norway
[25]Department of Geriatrics, Medical University of Lodz, plac Hallera 1, 90-647 Łódź, Poland
[26]Internal Medicine Specialist with Geriatrics Competence, Orthogeriatric Unit Coordinator, Internal Medicine Department, Hospital São Francisco Xavier, Centro Hospitalar de Lisboa, Ocidental, Invited Lecturer of Geriatrics, Faculdade de Medicina, Universidade de Lisboa, Estr. Forte do Alto Duque, 1449-005 Lisboa, Portugal
[27]Faculty of Medicine, Carol Davila University of Medicine and Pharmacy, Ana Aslan National Institute of Gerontology and Geriatrics, Romania
[28]Serbian Association of Geriatricians and Gerontologist, Udruženje gerijatara i gerontologa Srbije, Preševska 31, 11000 Beograd, Serbia
[29]Geriatric Department, Slovak Medical University, 831 01 Bratislava, Slovakia
[30]Department of Family Medicine, Faculty of Medicine, University of Ljubljana Korytkova ulica 2, 1000 Ljubljana, Slovenia
[31]Servicio de Geriatría. Hospital Universitario Ramón y Cajal, Madrid, Spain
[32]Department of Clinical Sciences Helsingborg, Helsingborg Hospital, Lund University, Svartbrödragränden 3-5, 251 87 Helsingborg, Sweden
[33]Department of Neurobiology, Care Sciences and Society (NVS), Division of Clinical geriatrics, Solnavägen 1, 171 77 Solna, Sweden
[34]Department of Geriatrics, Geriatrische Klinik St. Gallen and University of Zürich, Zürich, Switzerland
[35]Section of Geriatrics, Department of Internal Medicine, School of Medicine, Ege University Erzene Mahallesi, 35040 Bornova/İzmir, Turkey
[36]Department Geriatric Medicine, Royal Infirmary, Glasgow, G4 0SF, UK
[37]CLAHRC-East Midlands 'Caring for Older People and Stroke Survivors' (COPSS), Nottingham Biomedical Research Centre (BRC)
[38]Institute of Biomedicine of Ageing, Friedrich Alexander University Erlangen, Schloßplatz 4, 91054 Erlangen, Germany
[39]Department of Geriatrics, Klinikum Nürnberg, Paracelsus Private Medical University, Prof.-Ernst-Nathan-Straße 1, 90419 Nürnberg, Germany

Address correspondence to: Michael Vassallo, Royal Bournemouth Hospital, Castle Lane East, Bournemouth, BH7 7DW, UK.
Email: michael.vassallo@rbch.nhs.uk

Abstract

Background: the European Union of Medical Specialists (UEMS-GMS) recommendations for training in Geriatric Medicine were published in 1993. The practice of Geriatric Medicine has developed considerably since then and it has therefore become necessary to update these recommendations.
Methods: under the auspices of the UEMS-GMS, the European Geriatric Medicine Society (EuGMS) and the European Academy of Medicine of Ageing (EAMA), a group of experts, representing all member states of the respective bodies developed a new framework for education and training of specialists in Geriatric Medicine using a modified Delphi technique. Thirty-two expert panel members from 30 different countries participated in the process comprising three Delphi rounds for consensus. The process was led by five facilitators.
Results: the final recommendations include four different domains: 'General Considerations' on the structure and aim of the syllabus as well as quality indicators for training (6 sub-items), 'Knowledge in patient care' (36 sub-items), 'Additional Skills and Attitude required for a Geriatrician' (9 sub-items) and a domain on 'Assessment of postgraduate education: which items are important for the transnational comparison process' (1 item).
Conclusion: the current publication describes the development of the new recommendations endorsed by UEMS-GMS, EuGMS and EAMA as minimum training requirements to become a geriatrician at specialist level in EU member states.

Keywords

postgraduate training, geriatric medicine, consensus, curriculum, European Union, older people

Key points

- The practice of geriatric medicine has developed since the previous recommendations of the EUMS.
- 32 expert raters from 30 different countries participated in the process comprising three Delphi rounds for consensus.
- The final recommendations include four domains: Structure and quality indicators, knowledge, additional skills and assessment.

- The new curriculum recommendations are endorsed by UEMS-GMS, EuGMS and EAMA as minimum training requirements to become a geriatrician at specialist level in EU member states.
- The curriculum presented in this paper is that it leaves space for nations to develop national curricula according to local requirements and healthcare systems.

Background

The European Union (EU) commission regulates content on health workforce training within its core agenda. Chapter six of the Charter for training of medical specialists in the EU, published in 1993 by the European Union of Medical Specialists (UEMS) [1] outlines recommendations for minimum requirements for postgraduate training in Geriatric Medicine. The Geriatric Medicine Section of the UEMS (UEMS-GMS) defined these requirements and they cover general aspects of training, requirements for institutions, teachers (trainers) and trainees as well as the competencies that need to be acquired to be a specialist in the subject. Built on a competency framework, the UEMS-GMS also published recommendations for a common pan-European curriculum for training in Geriatric Medicine. Given that the practice of the specialty has developed significantly since then and Geriatricians have expanded their roles, it has become necessary and timely to update these recommendations.

In a collaborative effort the UEMS-GMS, the European Geriatric Medicine Society (EuGMS) and the European Academy of Medicine Ageing (EAMA) decided to revise and update the current recommendations that were launched more than two decades ago.

Kern's six-step approach [2] was adopted as this offers a structured method for curricular development. The initial step requires problem identification and a general needs assessment. To this end, a team of experts from the three organisations involved in the process agreed to collate and analyse the currently available curricula published by different national societies and implemented in national training frameworks. Early on in this process, it became clear that levels of competence as well as the content required to become a geriatrician differed considerably between different European countries, and indeed some had not yet established postgraduate training in the discipline [3]. Standardised comparison was only possible using a structured and widely-agreed template for core competencies [4]. Introducing this template into an international comparative analysis process allowed a solid foundation for the development of widely-approved recommendations for core competencies in postgraduate training of Geriatric Medicine across Europe.

Methods

Using a similar recent procedure for developing recommendations for undergraduate training in Geriatric Medicine [5], the new recommendations for postgraduate training were developed using a modified Delphi technique [6, 7]. The Delphi technique is a well-recognised consensus method used to determine the extent of agreement on an issue. The process generally includes the formation of a template for further rating, built on either a literature review or pre-existing data and a panel of experts undertaking a series of 'rounds' to identify, clarify, refine and finally to gain consensus. As the process is undertaken remotely, individuals can express their opinion without being influenced by others.

Template used

As a first step, the developmental group of facilitators collected pre-existing national curricula for postgraduate training within the EU countries and mapped the contents of the curricula with the audit tool previously developed and published in 2016 [4]. In doing so it became clear, that due to the extensive differences in the structure, format and content of the curricula, it was impossible to extrapolate common core components from these national curricula to be used as a starting template for the Delphi process [3]. The facilitators therefore decided to use the previously validated and published audit instrument [4] itself including additional items present in national curricula to start the process described in this paper (see Appendix Table 1 in the supplementary data, available at *Age and Ageing* online). This included 12 items on general considerations in Domain I, 59 items on knowledge in patient care in Domain II, 11 items about additional skills and attitudes required for geriatricians in Domain III and finally 7 items on assessment and quality of postgraduate education in Domain IV.

Expert panel

Thirty-two expert panel members from 30 different countries were invited to participate. All expert panel members and the facilitators are listed as authors of this publication. At the start of the Delphi process, each of them were either delegates of UEMS-GMS, members of the Special Interest Group (SIG) in Education and Training of the EUGMS or the Full Board of EUGMS or professors in EAMA. Belgium had responded that there might be a mismatch between curricula in the Flemish and French speaking part of the country. Therefore, it was decided to invite delegates from both parts of the country to participate. Furthermore, the UK, due to its pioneering position developing a national curriculum, was initially invited to bring in expertise from different parties. All panel members, except one, were trained geriatricians and were actively involved in medical care of older patients or teaching or training of young geriatricians.

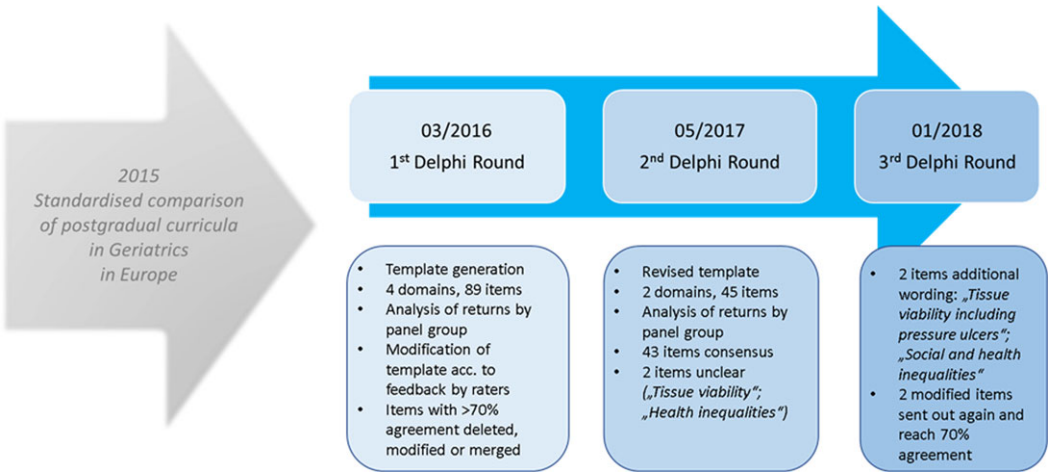

Figure 1. Process of the development of the curriculum for postgraduate training of Geriatricians in Europe.

Twenty-three panel members and four of the members of the core study group were also involved in academic work in Geriatric Medicine in terms of clinical science or teaching.

Delphi rounds

Figure 1 gives an overview of how the Delphi process was conducted and how the curriculum was developed.

First Delphi round

Panel members received an email asking for their willingness to participate in the process. For those responding with a positive answer, the participants received another email including an initial version of the template shown in Table 1 in Appendix in the supplementary data, available at *Age and Ageing* online of this publication. It was sent as an internet-based questionnaire to the panel in March 2016. They were asked to rate in a dichotomous fashion, with either 'yes' or 'no'answers. Additionally, they had the option to add free comments.

Responses were counted, and the feedback from the panel was evaluated. Items with <50% acceptance were excluded from the template or re-evaluated. Items with an acceptance rate between 50% and 70% and additional comments and suggestions were evaluated, condensed and integrated in the domains by the facilitators. The following guiding principles were taken into account during this process: (a) Improve the wording and language (b) Requests for adding a new item or aspect (c) Requests for deleting an item or aspect of it and (d) Requests for merging different items or aspects. The expert group ensured that any modification did not result in the omission of an objective that was considered relevant by the majority of the Delphi panel.

Second Delphi round

Panel members were sent an e-mail with the invitation to the second Delphi round May 2017. For information, they received an interval update of the first Delphi round enclosed within this email. They received 45 items in total that were re-elaborated by the facilitators according to the guideline principles as outlined. The same procedure of rating and analysis was used as in the first Delphi round.

Third Delphi round

During this round, panel members were informed that the expert group had attempted to produce a version which might be acceptable for all panel members, apart from two single items. In January 2018, panel members received an email including all agreed items and including the rate of acceptance for each single item. Panel members were asked for a vote on two remaining items which had not reached significant consensus after the second Delphi round. During the last round, they were asked to rate in only dichotomous fashion with 'yes' or 'no' for those two items to remain in the final version of the curriculum.

Results

Participation of expert panel members

The whole Delphi process took 3 years and included three major milestones until experts across Europe reached a consensus on the structure and content of the European recommendations on postgraduate training. Thirty-two expert panel members from 30 different countries were invited to participate and responded. For the second Delphi round, again 32 panel members were invited but only 31 responded. For the third Delphi round, 29 responded. Table 1 gives a summary overview of changes made by the panel at various stages of the Delphi process.

First Delphi round

During the first Delphi round 9/12 items in Domain I, 46/59 items in Domain II, 8/11 items in Domain III and 6/7 items in Domain IV reached the level of significant positive

Table 1. Summary of the sequence of Delphi Process highlighting changes done to curriculum before the final version was reached

Delphi Round 1						Delphi Round 2			Delphi Round 3			END	
Domain	No. of Items	Action				Domain	No. of Items	Action	Domain	Action		Final Version	Number of Items
I	12 Items		Two items deleted		Five items merged into one item	I	Three items rephrased						
II	59 Items	Ten new items to list geriatric syndromes separately	26 items deleted	1 item moved into Domain 3	12 items merged into 6 items	II	19 items rephrased						
III	11 Items	One additional item from Domain 2	Three items deleted			III	4 items rephrased						
IV	7 Items		Five items deleted		Two items merged into one item	IV							
							36 items	Not send out	I	Not send out		Domain I	6 items
							9 items	rephrased	II	2 items remain unclear…	Two unclear items send out again and reach agreement	Domain II	36 items
							9 items		III	Not send out		Domain III	9 items
							Not send out		IV	Not send out		Domain IV	1 item
													Final Version all four domains send out to all experts

feedback of more than 70% 'yes' ratings of panel members. Due to additional comments from panel members, the following decisions were initially taken by the core study group between March and April 2017: For Domain I, two items were deleted and five items were merged into one common learning objective. In Domain II, 13 items did not reach the level of significance and were therefore deleted. Additionally, 19 items of Domain II were rephrased and 10 items were added due to panel members' recommendation. one item was removed from Domain II and included in Domain III. Furthermore, 10 items were merged to five items and 14 items were incorporated into other items of Domain II resulting in the deletion of a total of 26 items following the first Delphi round (see Figure 1). In Domain III, three items did not reach the level of significance and were deleted. Four items were rephrased according to panel members' suggestions and one item was additionally included from Domain II, leaving nine items as a final result. In Domain IV, six items were incorporated into one item which was then rephrased into one overall item. Domains I and IV reached final positive overall feedback from panel members following the first Delphi round.

Second Delphi round

A template for ratings was sent out to panel members in May 2017. Due to work done in between the two Delphi rounds by the core study group, the second Delphi round contained only 36 items in Domain II for re-rating and nine items in Domain III. All items reached the level of significance. However, two of the items were sent back with major comments for rephrasing and merging, respectively. These items were 'Tissue Viability' and 'Health inequalities'. The study facilitators decided to send these two items with additional wording, 'Tissue Viability including pressure ulcers' and 'Social and Health inequalities', into another Delphi round to achieve full consensus. However, to accelerate the process and due to the type of comments made, the group decided to ask just for dichotomous answers.

Third Delphi round

For the third Delphi round all 32 panel members were contacted by email January 2018. A positive reply to keep both items as suggested during the second Delphi round was achieved within 3 days. Four panel members did not answer despite one reminding email. Consensus of >70% had been achieved according to guiding principles of the modified Delphi survey used in this project. Therefore, the core study group decided to close the process and outline the final, concerted recommendation of postgraduate curriculum in geriatric medicine across Europe. The final results are shown in Table 2.

As may be seen from the Table 2, the agreed recommendations currently contain four domains of learning objectives. One domain covers general considerations including six items from year of publication up to quality

Table 2. Recommendations for training requirements to become a geriatrician in Europe including level of agreement

		% of agreement
Domain I: General considerations		
1	Year of publication or latest update of syllabus/curriculum cited	94
2	Recommended reading	78
3	Editors of the syllabus/curriculum cited (Roller-Wirnsberger, Singler, Masud, Vassallo) plus national contact point	78
4	Institutions/societies responsible for content cited (UEMS, EUGMS, IAGG-ER, EAMA)	94
5	Aim of syllabus/curriculum outlined (text provided by Katrin Singler)	88
6	Quality control: institution/society/ministry, role and responsibilities of program director/educator within the training institutions, accreditation process for training institutions, minimum structural requirements for institutions involved in training of young geriatricians (space, acute care hospital, long-term care facility, long-term non-institutional care services, ambulatory care facilities, other support services), disciplines and other healthcare professions involved in postgraduate training	78
Domain II: Knowledge in patient care		
1	Biology of ageing	97
2	Acute and Chronic Disease in Old Age, their clinical presentation including atypical presentation and their effect on organ function and functionality	100
3	Falls	100
4	Dizziness and Vertigo	87
5	Syncope	87
6	Gait disorders	87
7	Parkinson's Disease and Syndromes	97
8	Other Movement disorders	87
9	Stroke	93
10	Dysphagia	97
11	Malnutrition and fluid imbalance	100
12	Osteoporosis and bone health	97
13	Sarcopenia	97
14	Frailty	97
15	Continence (urinary and faecal)	100
16	Pain (acute and chronic)	100
17	Dementia and cognitive impairment	100
18	Delirium	100
19	Sleep disorders	90
20	Depression	97
21	Other psychiatric disorders in old age	87
22	Tissue Viability including pressure ulcers	70
23	Ethical issues including ageism and elder abuse	100
24	Legal aspects for older people (country specific)	93
25	Social and Health inequalities	70
26	Health promotion and healthy ageing *(Please not here that the learning objective includes here the following aspects: physical activity, keeping active, avoiding smoking and excessive alcohol, life-style interventions, vaccination, Vit. D, loneliness, nutritional aspects)*	100
27	Pharmacological issues associated with ageing and in geriatric care	100
28	Iatrogenic and care delivered disorders	87
29	Sexuality in older adults	93
30	Comprehensive Geriatric Assessment	100
31	Content and principles of geriatric rehabilitation and its multi-professional aspects	97
32	Multidisciplinary and interdisciplinary approach in the management of geriatric patients (e.g. orthogeriatrics, oncogeriatrics, perioperative care, cardiology, nephrology, emergency medicine and others)	100
33	Role of family and other care givers	97
34	Management of patients in long-term care including residential and nursing care homes	93
35	Palliative and Hospice Care in older patients	97
36	Gerotechnology and eHealth—appropriate housing, ambient assisted living, interventions to support an autonomous life	100
Domain III: Additional skills and attitudes required for geriatricians		
1	Educational and teaching skills	90
2	Interpersonal and communication skills	97
3	Development of geriatric services (country specific)	83
4	Quality improvement competencies	87
5	Interprofessional team management	100
6	Advocacy of patients' requirements and wishes	83
7	Leadership competencies	80
8	Life-long learning and continuous professional development	83
9	Integration of holistic skills and attitudes for an individualised person-centred care	83
Domain IV: Assessment of postgraduate education: which items are important for the transnational comparison process		
1	National medical specialist exam (format and timing)	83

Table 2 shows the final consensus achieved among experts on core components to be addressed to become a geriatrician in Europe. This consensus will be the core to further identify competence levels for single items on knowledge, skills and attitudes on a national level for countries adopting the recommendation launched by UEMS-GMS, EuGMS and EAMA.

control. Domains II and III cover knowledge and skills to be achieved during postgraduate training, including 36 items and 9 items, respectively. The last domain includes assessment methods and is addressing national exams at this stage of the process. All seven items of Domain IV reached the level of significance (83%), yet feedback from the experts showed that there was considerable divergence about the fine detail of conducting the process. It was therefore agreed by the panel that it was that it was appropriate to merge the initial seven items of Domain IV into one summarising item to allow enough flexibility for individual countries to tailor their assessment processes to their individual circumstances.

Discussion

Since 2015 the UEMS-GMS, EAMA and the EuGMS have continued their collaboration on curricular development following the successful development of European recommendations for undergraduate training in Geriatric Medicine [5]. These recommendations had been translated into several languages of EU member states following their first publication and had been successfully implemented in many European universities and faculties [8, 9]. Following this process, it was clear that the involvement of a broad group including expert clinicians and academics in the field of geriatric medicine is important to ensure the high quality content of the new postgraduate curriculum. To facilitate transnational implementation, it was decided by the core study group to keep utmost transparency during the process and to consider only core components of a curriculum to be developed jointly across Europe [10]. Consequently, several experts from all countries of the EU became involved. A modified Delphi technique was adopted as the method of choice to develop the content, leaving space for comments and suggestions to a panel affiliated to the three bodies and participating as panel members during the process [6, 7].

Due to wide variation in curricula across Europe, it was not thought possible to extrapolate common core components to be used as a starting template for the Delphi process. Consequently, the group decided to use the previously validated audit instrument [4] itself to start. The Template (Appendix Table 1 in the supplementary data, available at *Age and Ageing* online) incorporated four domains covering important aspects of curricula addressing content on knowledge and skills and touches upon assessment methods recommended to assess training progress in postgraduate Geriatric Medicine training [4]. This basic structure was not challenged and remained unchanged during the three-step process leading to the final curricular recommendations. This is not surprising as the development of the audit tool had also been developed using an open consultation method. Despite panel members (coming from all European countries) differing in the two processes, there seemed to be broad consensus between the two panels concerning the structure of a commonly agreed pan-European postgraduate curriculum. This strong internal consistency for the chosen structure among a large consortium of experts across Europe is one of the big strengths of this work.

The process to develop the recommendations presented in this publication needed a three-step approach and lasted 2 years (see Figure 1). Major drawbacks were delays in feedbacks from panel members and the logistics behind every Delphi round. The core study group had decided on cut-offs for items to be accepted or deleted, improve wording, adding a new item or merging different items or aspects before starting the process. However, during evaluation in between Delphi rounds it became clear, that the taxonomy chosen to pull together information was not able to cover all aspects of feedbacks given by the panel members. Some gave feedbacks to withdraw items and at the same time offered options to rephrase items. Other feedback not foreseen was to merge two items and rephrase simultaneously. The facilitator group decided to follow the rules of 'majority' as discussed in the literature [6, 7] and collated all feedback in relation to specific items such that if two actions were offered simultaneously by a panel member, the one also addressed by a majority of other members (>70%, see methods section of this publication) was applied. This methodology is also described elsewhere [11]. Starting the process with semi- open formats offers the opportunity of gaining information which may not be collected in methodologies restricted to pure quantitative feedbacks from panel members. Although the template did not initially capture all permutations of feedback it was possible to discuss such feedback in relation to the various sections of the curriculum and we are confident that we captured and considered all opinions and suggestions. Using this approach, it was possible for the process described to leave space for a broad variety of inputs from all across Europe.

The finally agreed content of the new postgraduate recommendations in postgraduate education outlined in Table 1 shows some changes when compared to the minimum training requirements previously published by UEMS-GMS [12]. Most of the competencies outlined in the UEMS curriculum are based on knowledge required to create an understanding of processes in geriatric care without taking consideration of current different models of Geriatric Medicine practice in Europe. There is emerging consensus for the need to work towards the harmonisation of postgraduate training in Europe. This can be achieved by the establishment of pan-European education and training standards in the specialty [13]. Competencies are structured and practiced according to care settings and are not just dependent on levels of knowledge. The new curriculum outlined in this publication reflects the input and structure already present in some national curricula, such as the one from UK, France and others and is a continuation of the work performed in preparation of this final Delphi procedure to develop a pan-European curriculum [3]. Interestingly, we found strong and straight forward consensus on knowledge and skills to be acquired for trainees during residency.

In the USA, colleagues have very recently chosen to express the role of geriatricians using entrusted professional activities (EPA) adapted to care settings [14]. These indicate the capability to perform distinct tasks. However, such an approach strongly depends on care settings and healthcare demands aligned with national healthcare systems [15]. It may be argued that EPAs nowadays better describe the competencies required to practice a profession. However, given the huge variations in the role of Geriatric Medicine in EU member states, due to differences in healthcare systems detected during the preparatory phase of this project, it was thought not feasible to use EPAs to describe postgraduate training requirements in Geriatric Medicine across Europe at this stage.

One of the major strengths of the work presented is the support and endorsement from three bodies, UEMS-GMS, EuGMS and EAMA. Experts from all three societies supported the work during the entire process and none of the invited expert panel members left the consortium within the two years. As the template of the Delphi method described in this publication had also been built in an open consultation process by different experts we are confident that the work presented here reflects the broad European expert opinion on how to train and what to teach to young residents in geriatric medicine. Another advantage of the curriculum presented in this paper is that it leaves space for nations to develop national curricula according to local requirements and healthcare systems. This is in alignment with recommendations coming from the World Health Organization, addressing training requirements in the light of ageing societies [16]. Development of healthcare workforce is key to adapt healthcare systems to the needs of users in health systems [17]. EU wide actions and initiatives are currently addressing these needs. The development of this new curriculum will put geriatric medicine in the forefront of postgraduate medical education. Furthermore, the competencies will strengthen the leading position of Geriatric Medicine in the context of multi-professional care of older people [1].

In this context, this curriculum should enable stakeholders within the Union to argue for development of training standards in Geriatric Medicine. There is a strong need for the speciality due to demographic changes and care requirements in the context of growing multi-morbidity and functional changes with increasing patient age. Currently, more than 70% of the EU member states already commit to Geriatric Medicine as a specialty. The new curriculum establishes European training standards and will also facilitate transnational migration of geriatricians within EU borders.

Limitation of the work is the timely length of the process as a whole. The results presented in this paper are based upon core content collected three years ago from member states. It is to be expected that some member states have changed their postgraduate curricula in the meantime. Due to this fact, there is a strong need to continue research work in the field. Ongoing work is required to collect all curricula from member states and to compare the current contents with the new recommendations.

Another issue arising from this work is the question of whether a Pan-European common assessment in geriatric medicine is required [19–22]. Looking at Table 2, it becomes clear that panel members are recommending an assessment. However, it was not possible to align them towards a more detailed outline for a common examination structure. As assessment drives learning, the format of an assessment strongly influences training requirements and settings. It may be speculated that, due to the wide variation between EU member states it will be difficult to establish a common consensus on this issue. This point needs to be addressed in more detail in the near future and will the focus for discussion in the UEMS-GMS and EuGMS organisations in the next few years.

Supplementary data: Supplementary data mentioned in the text are available to subscribers in *Age and Ageing* online.

Declaration of Conflict of Interest: None.

Declaration of Sources of Funding: The project was supported by EUGMS by a restricted grant in 2017, which was used to support the administrative work during the Delphi procedure.

References

1. Charter on Training of Medical Specialists in the European Community. Charter adopted by the Management Council of the UEMS.1993 UEMS.
2. Kern DE, Thomas PA, Hughes MT, Chen BY. Curriculum Development for Medical Education: A Six-Step Approach. Springer Publishing Company, 2015.
3. Singler K, Holm EA, Jackson T, Robertson G, Muller-Eggenberger E, Roller RE. European postgraduate training in geriatric medicine: data of a systematic international survey. Aging Clin Exp Res 2015; 27: 741–50.
4. Singler K, Gordon AL, Robertson G, Roller RE. The development of a geriatric postgraduate education assessment instrument using a modified Delphi procedure. Age Ageing 2016; 45: 718–22.
5. Masud T, Blundell A, Gordon AL *et al.* European undergraduate curriculum in geriatric medicine developed using an international modified Delphi technique. Age Ageing 2014; 43: 695–702.
6. Adler M, Ziglio E. Gazing Into the Oracle: The Delphi Method and Its Application to Social Policy and Public Health. London: Jessica Kingsley Publishers, 1996.
7. Vernon W. The Delphi technique: a review. Int J Therapy Rehabil 2009; 16: 69–76.
8. Singler K, Stuck AE, Masud T, Goeldlin A, Roller RE. Lernzielkatalog für die studentische Lehre im Fachbereich, Geriatrie‘ an Fakultäten für Humanmedizin. Zeitschrift für Gerontologie und Geriatrie 2014; 47: 570–6.
9. Vilches-Moraga A, Ariño-Blasco S, Verdejo-Bravo C, Mateos-Nozal J. Plan de estudios universitarios en medicina geriátrica desarrollado utilizando una técnica internacional Delphi modificada. Revista Española de Geriatría y Gerontología 2015; 50: 82–8.

10. Laurie R, Nonoyama-Tarumi Y, McKeown R, Hopkins C. Contributions of Education for Sustainable Development (ESD) to Quality Education: a synthesis of research. J Educ Sustain Dev 2016; 10: 226–42.
11. Brady SR. Utilizing and adapting the Delphi method for use in qualitative research. Int J Qual Methods 2015; 14: 1609406915621381.
12. Training in Geriatric Medicine in the EU. Training Requirement 2016. uemsgeriatricmedicine.org/www/dok/Minimum Training Requirment 2016.pdf; accessed 4th August 2018.
13. Fisher JM, Masud T, Holm EA *et al*. New horizons in geriatric medicine education and training: the need for pan-European education and training standards. Eur Geriatr Med 2017; 8: 467–73.
14. Leipzig R, Sauvigne MK, Granville LJ *et al*. What is a geriatrician? American Geriatrics Society and Association of Directors of Geriatric Academic Programs end-of-training entrustable professional activities for geriatric medicine. J Am Geriatr Soc 2014; 62: 924–9.
15. ten Cate O, Scheele F. Competency-based postgraduate training: can we bridge the gap between theory and clinical practice? Acad Med 2007; 82: 542–7.
16. WHO, IFMSA Teaching Geriatrics in Medical Education II, Department of Ageing and Life Course and IFMSA. 2018 http://www.who.int/ageing/publications/geriatrics_survey/en/; Accessed 24th August 2018.
17. Windhaber T, Koula ML, Ntzani E *et al*. Educational strategies to train health care professionals across the education continuum on the process of frailty prevention and frailty management: a systematic review. Aging Clin Exp Res 2018. doi:10.1007/s40520-018-0918-9.
18. Kidd E. Promoting a sustainable workforce for health in Europe. New York: Eurohealth, 2009; Vol 15: 20–2.
19. Windhaber T, Koula ML, Ntzani E *et al*. Educational strategies to train health care professionals across the education continuum on the process of frailty prevention and frailty management: a systematic review. Aging Clin Exp Res 2018. https://doi.org/10.1007/s40520-018-0918-9.
20. Michel JP, Huber P, Cruz-Jentoft AJ. Europe-wide survey of teaching in geriatric medicine. J Am Ger Soc 2008; 56: 1536–42.
21. Roller RE, Petermans J. Education and training in geriatrics in the 21st century—where do we come from—where do we go? Eur Geriatr Med 2015; 6: 205–7.
22. Miller GE. The assessment of clinical skills/competence/performance. Acad Med 1990; 65: S63–7.

Received 27 June 2018; editorial decision 19 September 2018

Age and Ageing 2019; **48:** 299–306
doi: 10.1093/ageing/afy184
Published electronically 7 January 2019

Experiences with and outcomes of Advance Care Planning in bereaved relatives of frail older patients: a mixed methods study

Anouk Overbeek[1], Ida J. Korfage[1], Bernard J. Hammes[2], Agnes van der Heide[1], Judith A. C. Rietjens[1]

[1]Department of Public Health, Erasmus MC, University Medical Center Rotterdam, P.O. Box 2040, 3000 CA Rotterdam, The Netherlands
[2]Respecting Choices, C-TAC Innovations, 600 Third Street North, Suite 101 La Crosse, WI 54601, USA

Address correspondence to: Anouk Overbeek, Department of Public Health, Erasmus MC, PO Box 2040, 3000 CA Rotterdam, The Netherlands. Email: a.overbeek@erasmusmc.nl

Abstract

Background: Advance Care Planning (ACP) may prepare relatives of frail older patients for future decision-making.
Objective: to investigate (1) how bereaved relatives of frail older patients experience ACP conversations and (2) whether ACP has an effect on relatives' preparation for decision-making and on their levels of anxiety and depression.
Design: cluster randomised controlled trial.
Setting: residential care homes in the Netherlands and community setting.